The Computer Glossary

The Complete Illustrated Dictionary

NINTH EDITION

ALAN FREEDMAN

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bandwidth

The transmission capacity of an electronic line such as a communications network, computer bus or computer channel. It is expressed in bits per second, bytes per second or in Hertz (cycles per second). When expressed in Hertz, the frequency may be a greater number than the actual bits per second, because the bandwidth is the difference between the lowest and highest frequencies transmitted. See *traffic shaping*.

bank

An arrangement of identical hardware components.

bank switching

Engaging and disengaging electronic circuits. Bank switching is used when the design of a system prohibits all circuits from being addressed or activated at the same time, requiring that one unit be turned on while the others are turned off.

banner ad

A graphic image used on a Web site to advertise a product or service. Banner ads (ad banners) are typically 460 pixels wide by 60 pixels high.

BAPCo

(Business Applications Performance Corporation) A nonprofit organization founded in 1991 that develops benchmarks for PC software.

bar chart

A graphical representation of information in the form of bars. See *business graphics*.

bar code

The printed code used for recognition by a scanner. Traditional one-dimensional bar codes use the bar's width as the code, but encode just an ID or account number. Two-dimensional systems, such as PDF 417 from Symbol Technology, hold 1,800 characters in an area the size of a postage stamp. See *UPC*.

barrel distortion

A screen distortion in which the sides bow out. Contrast with *pincushioning*.

base

(1) A starting or reference point.

(2) A component in a bipolar transistor that activates the switch. Same as *gate* in a MOS transistor.

(3) A multiplier in a numbering system. In a decimal system, each digit position is worth 10x the position to its right. In binary, each digit position is worth 2x the position to its right.

base address

The starting address (beginning point) of a program or table. See *base/displacement* and *relative address*.

base alignment

The alignment of a variety of font sizes on a baseline.

LAN Technologies	Bandwidth
Ethernet	10 Mbps (shared)
Switched Ethernet	10 Mbps (node to node)
Fast Ethernet	100 Mbps
Gigabit Ethernet	1000 Mbps
Token Ring	4, 16 Mbps
Fast Token Ring	100, 128 Mbps
FDDI/CDDI	100 Mbps
ATM	25, 45, 155, 622. 2488 Mbps +

To compute actual network throughput, divide bps (bits per sec) by 10 for bytes per second. Then halve the amount to account for overhead. Thus, in a 10 Mbps Ethernet network, there is only 500 thousand bytes per second of usable bandwidth. That means a 10 meg file will take 20 seconds to send. The 10 million bits per second doesn't sound so fast anymore, does it?

WAN Technologies	Bandwidth
UNSWITCHED PRIVATE LINES (point to point)	
T1	24 x 64 Kbps = 1.5 Mbps
T3	672 x 64 Kbps = 44.7 Mbps
Fractional T1	N x 64 Kbps
SWITCHED SERVICES	
Dial-up via modem	9.6, 14.4, 28.8, 33.6, 56 Kbps
ISDN	BRI 64-128 Kbps / PRI 1.544 Mbps
Switched 56/64	56 Kbps, 64 Kbps
Packet switched (X.25)	56 Kbps
Frame relay	56 Kbps to 45 Mbps
SMDS	45, 155 Mbps
ATM	25, 45, 155, 622, 2488 Mbps +